



SUREKEY EXAMINATIONS BOARD
PRE-PLE UNIQUE SERIES (TOKYO)

2024

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Random NO.	Personal No.

Candidate's Name:

Candidate's Signature:

School Name:

Read the following instruction carefully:

1. Do not forget to write your **name** and **school name** anywhere on this paper.
2. This paper has **two** sections: **A** and **B**. Section **A** has **20** questions and section **B** has **12** questions. The paper has **16 printed pages** altogether.
3. Answer **all** the questions. **All** answers to both sections **A** and **B** must be written in the spaces provided.
4. All answers **must** be written using a **blue** or **black** ball point pen or ink. Any work written in pencil will **not** be marked.
5. **No calculators** are allowed in the examination room.
6. Unnecessary **changes** in your work and handwriting that cannot be read easily may lead to **loss of marks**.
7. Do not fill anything in the table indicated: "**FOR EXAMINERS' USE ONLY**" and boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
QN.NO.	MARKS	EXR'S NO.
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

SECTION A: 40 MARKS

Answer **all** questions in this section

Questions **1** to **20** carry **two** marks each

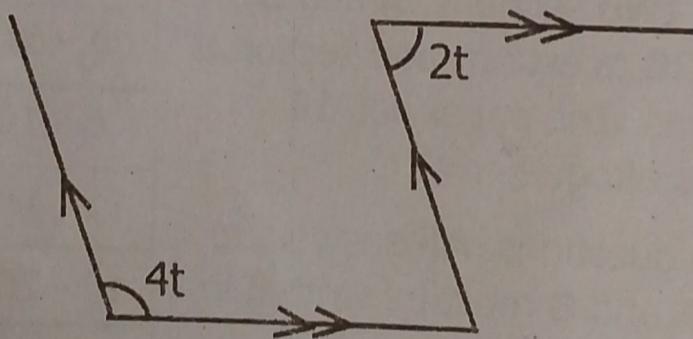
1. Workout:

$$\begin{array}{r} 9 & 6 & 6 \\ - 3 & 4 & 0 \\ \hline \end{array}$$

$$\begin{array}{r} \\ \\ \hline \end{array}$$

2. Express 439 as a Roman Numeral.

3. Find the value of t in the diagram below.



4. Given that Set $F = \{a, b, c, d\}$ and Set $W = \{b, n, e, f, a\}$.
Find the number of subsets from $F \cap W$.

5. Robinah goes shopping every after 9 days and Rebecca goes every after 5 days. If the two girls went shopping together today, after how many days will they shop together again on the same day?

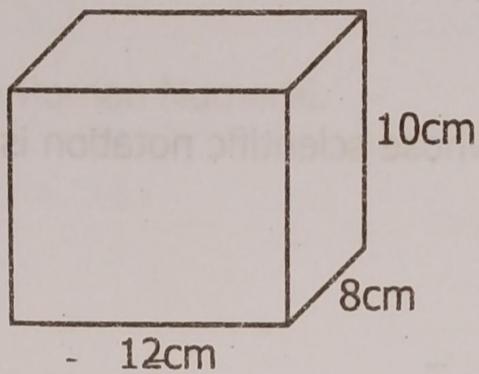
6. Find the number whose scientific notation is 5.48×10^{-3}

7. Write 1,200,360 in words.
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8. Using a ruler, a pencil and a pair of compasses only, construct an angle of 105° in space below.

9. Draw tally marks to represent the product of 3 and 8.

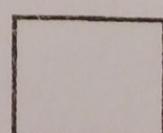
10. The rectangular prism below measures 12cm by 8cm by 10cm.



Calculate the total surface area of the prism.

11. A musical festival started on Saturday at 10:40a.m. and ended on Sunday at 4:30a.m. For how long did it last?

12. Solve and write the solution set for $2(4 - h) < 16$.
13. A man bought a box of tomatoes where 25% of them were rotten and only 72 tomatoes were good. How many tomatoes were in the box?
14. Find the sum of all prime numbers between 80 and 90.
15. The eucalyptus tree was the 21st tree from either side of the line of trees that make one side of the perimeter fence of the school. Find the number of trees on that side of the perimeter fence.



16. The temperature in Mbale at 6:00a.m. was -10°C . It rose up to 6°C in the evening. What was the temperature rise?

17. What number has been expanded to give;

$$(6 \times 100) + (7 \times 10) + (3 \times 10^{-2}) + (4 \times 10^{-3})$$

18. Convert the afternoon time shown on the clock face below to 24-hour clock.



19. Simplify: $13mn - 8bc - 4mn - 6bc$.

20. An athlete covers 176 metres in two laps of a circular running track.
What is the diameter of the running truck? (Use π as $\frac{22}{7}$)

SECTION B: 60 MARKS

Answer all the questions in this section

Marks for each question are indicated in brackets

21. The interior and exterior angles of a regular polygon are in the ratio of 3:2 respectively.

(a) How many sides does the polygon have? (03 Marks)

(b) Find the number of right angles the polygon has. (02 Marks)

22. One weekend, Bulya had Sh.50,000 from which he bought the items in the table below and was given a change of Sh.2,100. By show of working, complete the shopping table below. (06 Marks)

Item	Quantity	Unit Cost	Total Cost
Bathing soap	5 tablets	Sh. per tablet	Sh.
Sugar	Sh. 3,600 @ kg.	Sh.11,700
Cooking oil	600ml	Sh.7,000 per litre	Sh.
Bread	2 loaves	Sh. per loaf	Sh.12,000
TOTAL EXPENDITURE			Sh.

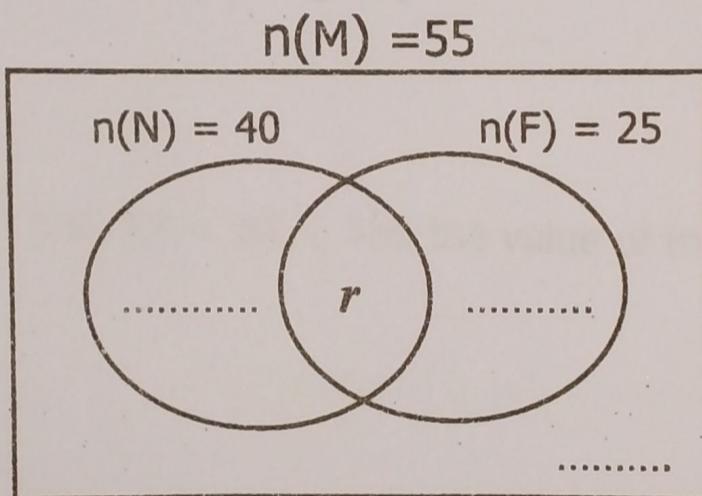
23. A man was given a job of extending 400 bricks from a kiln to a construction site. In every trip, the man carried 20 less bricks than the previous trip.

- (a) If the man carried all the bricks in 4 trips, how many bricks did he carry in the first trip? (03 Marks)

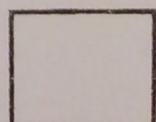
(b) On average, how many bricks did he carry? (02 Marks)

24. In a restaurant, all the 55 customers ordered for Mineral water (M) 25 customers ordered for Fanta (F) and Mineral water, 40 customers ordered for Novida (N) and Mineral water. 9 customers ordered for only mineral water while r customers ordered for all the three kinds of drinks.

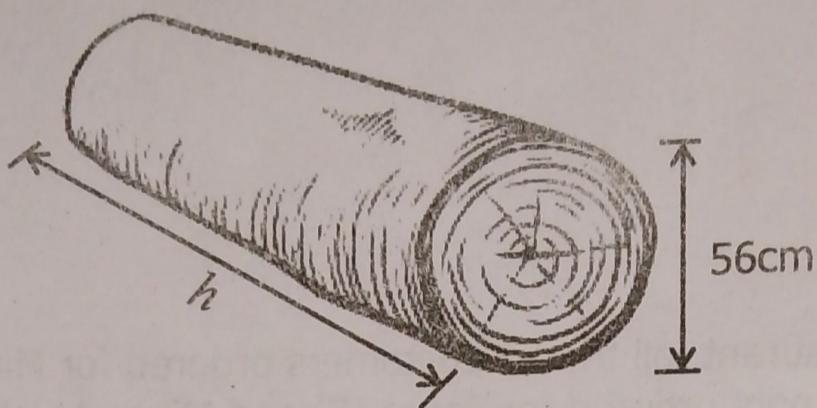
(a) Use the above information to complete the Venn diagram below. (03 Marks)



(b) How many customers ordered for at least two kinds of drinks? (03 Marks)



25. The diagram below shows a tree log of height (h) and a diameter of 56cm. Use it to answer the questions that follow.



- (a) If the log was split by a carpenter into a rectangular piece to make a window, work out the length of the window formed.
(Use π as $\frac{22}{7}$) (02 Marks)
- (b) If the area of the window formed was 8800cm^2 , find the height of the log. (02 Marks)

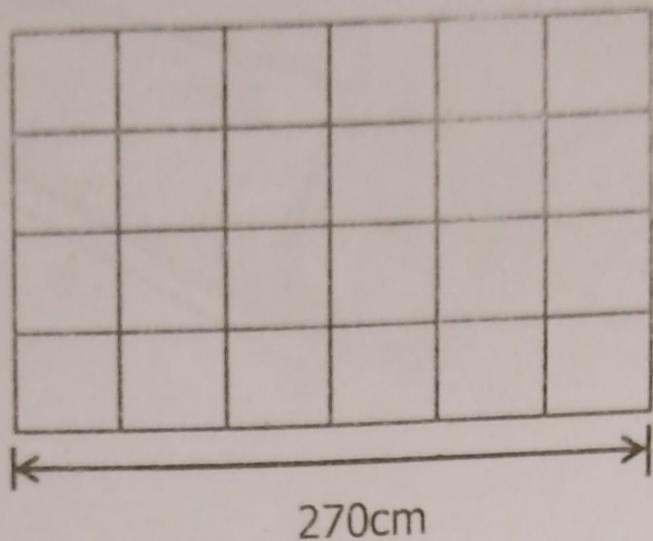
26. Kabasiita drove a car from town Z to town Y at a speed of 88km/h in $3\frac{1}{2}$ hours. She rested at town Y for half an hour and drove back at an average speed of 77km/h. Calculate Kabasiita's average speed for the whole journey. (05 Marks)

27. (a) Given that $16 = 31_m$, find the value of the unknown base m. (02 Marks)

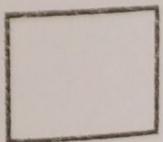
(c) Workout: Kg g (02 Marks)

	8	350
	- 2	620
	<hr/>	

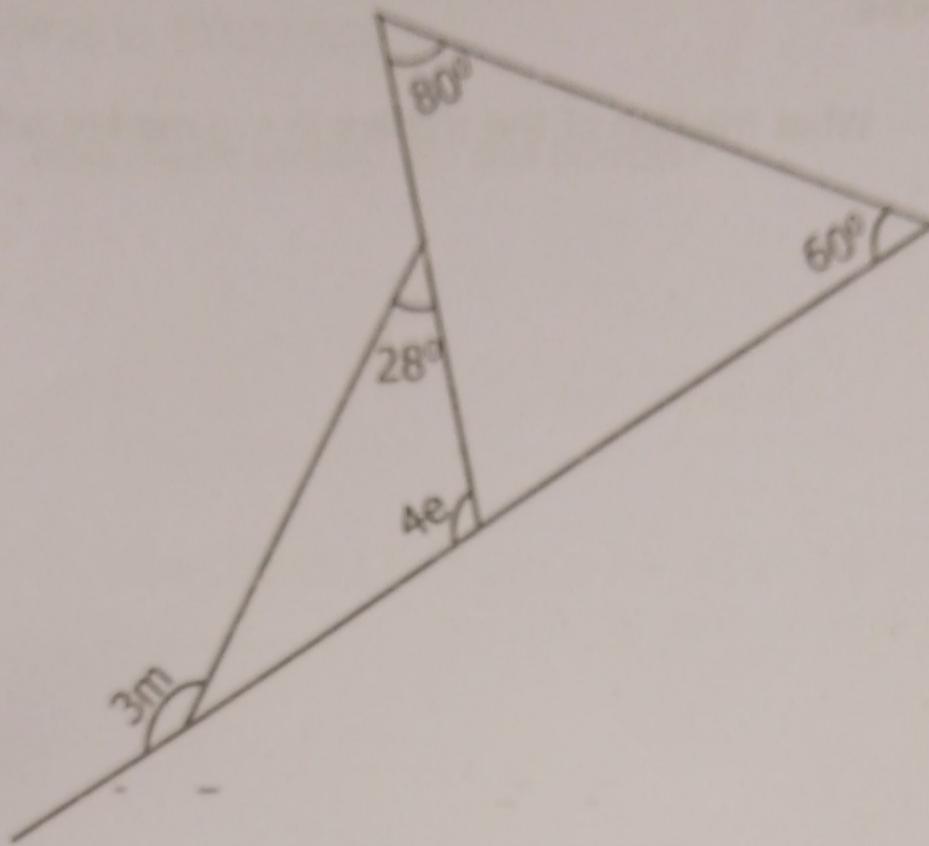
28. A builder laid square tiles in a rectangular room of length 270cm as shown in the diagram below. Study and use it to answer the questions that follow.



- (a) Find the width of the room. (02 Marks)
- (b) Calculate the area occupied by 5 tiles. (02 Marks)
- (c) Work out the perimeter of the room. (02 Marks)



29. Study the diagram below and use the information on it to answer the questions that follow.



Find the value of;

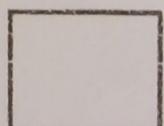
(i) e (02 Marks)

(ii) m (02 Marks)

30. In a market, $\frac{1}{4}$ of the traders sell irish potatoes, $\frac{1}{3}$ sell fruits, $\frac{3}{10}$ of the remainder sell vegetables and the remaining 35 traders sell matooke.

(a) What fraction of the traders in the market sell matooke? (03 Marks)

(b) Find the total number of traders in the market. (02 Marks)



31. A business woman borrowed some money from Centenary bank at an interest rate of $20\frac{1}{2}\%$ per annum. She was given a bundle of twenty thousand-shilling notes numbered consecutively from CT0237458 to CT0237507.

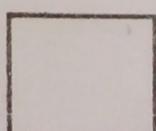
(a) How much money did she borrow? (02 Marks)

(b) Calculate the total amount of money the business woman paid back to the bank after 6 months. (03 Marks)

32. The information below was found on the noticeboard of Akpor Hospital showing the number of patients admitted in different wards in a certain month.

Ward	No. of Patients
Maternity Ward	15
Casualty Ward	35
Men's ward	30
Children's ward	20

Display the above information on a circle graph of radius 3.5cm in the space provided below. (05 Marks)



SECTION A: 40 MARKS

Answer **all** questions in this section

Questions **1** to **20** carry **two** marks each

1. Workout:

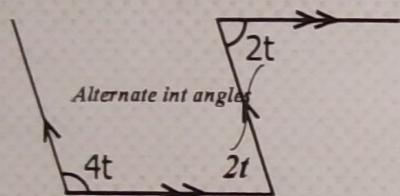
$$\begin{array}{r} 9 & 6 & 6 \\ - & 3 & 4 & 0 \\ \hline 6 & 2 & 6 \end{array}$$

$$\begin{aligned} 6 - 0 &= 6 \\ 6 - 4 &= 2 \\ 9 - 3 &= 6 \end{aligned}$$

2. Express 439 as a Roman Numeral.

$$\begin{aligned} 439 &= 400 + 30 + 9 \\ &= CD \quad XXX \quad IX \\ &= CDXXXIX \end{aligned}$$

3. Find the value of t in the diagram below.



$$\begin{aligned} 4t + 2t &= 180^\circ \quad (\text{Co int angles}) \\ 6t &= 180^\circ \\ t &= 30^\circ \end{aligned}$$

4. Given that Set $F = \{a, b, c, d\}$ and Set $W = \{b, n, e, f, a\}$. Find the number of subsets from $F \cap W$.

$$\begin{aligned} F \cap W &= \{a, b\} \\ n(F \cap W) &= 2 \\ \text{Number of subsets} &= 2^n \\ &= 2^2 \\ &= 2 \times 2 \\ &= 4 \end{aligned}$$

5. Robinah goes shopping every after 9 days and Rebecca goes every after 5 days. If the two girls went shopping together today, after how many days will they shop together again on the same day?

$$LCM = \begin{array}{|c|c|c|} \hline 3 & 5 & 9 \\ \hline 3 & 5 & 3 \\ \hline 5 & 5 & 1 \\ \hline 1 & 1 & 1 \\ \hline \end{array}$$

$$\begin{aligned} LCM &= 3 \times 3 \times 5 \\ &= 9 \times 5 \\ &= 45 \end{aligned}$$

Therefore, they will shop together again on the same day after 45 days

6. Find the number whose scientific notation is 5.48×10^{-3}

$$\begin{array}{r} 548 \times \frac{1}{100} \\ \hline 548 \times \frac{1}{1000} \\ \hline 548 \\ \hline 100000 \end{array}$$

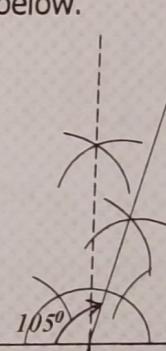
$$5.48 \times 10^{-3} = 0.00548$$

7. Write 1,200,360 in words.

Millions	Thousands	Units
1	200	360

One million, two hundred thousand, three hundred sixty.

8. Using a ruler, a pencil and a pair of compasses only, construct an angle of 105° in space below.

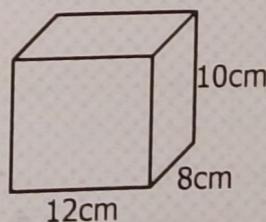


9. Draw tallies to represent the product of 3 and 8.

Product of 3 and 8	Number of bundles
3×8	$24 \div 5 = 4 \text{ rem } 4$
24	

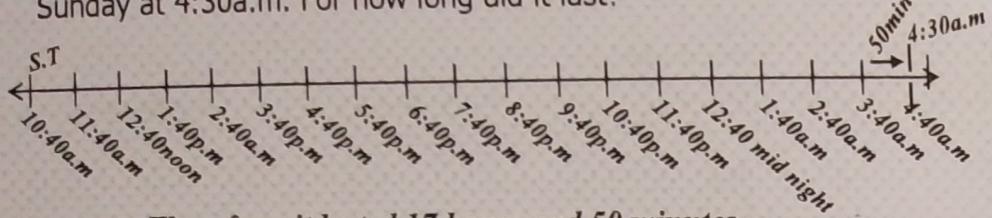
10. The rectangular prism below measures 12cm by 8cm by 10cm.

Calculate the total surface area of the prism.



$$\begin{aligned} TSA &= 2lw + 2wh + 2lh \\ &= (2 \times 12\text{cm} \times 8\text{cm}) + (2 \times 8\text{cm} \times 10\text{cm}) \\ &\quad + (2 \times 12\text{cm} \times 10\text{cm}) \\ &= 192\text{cm}^2 + 160\text{cm}^2 + 240\text{cm}^2 \\ &= 592\text{cm}^2 \end{aligned}$$

11. A musical festival started on Saturday at 10:40a.m. and ended on Sunday at 4:30a.m. For how long did it last?



Therefore, it lasted 17 hours and 50 minutes

OR		Total Duration
Duration from 10:40a.m. to noon	From noon to 12:00a.m.	12:00
12:00		1:20
-10:40	24:00	+ 4:30
<u>1:20</u>	<u>-12:00</u>	<u>17:50</u>
1hour and 20 minutes	<u>12:00hrs</u>	= 17h and 50 minutes

12. Solve and write the solution set for $2(4 - h) < 16$.

$$\begin{aligned}
 8 - 2h &< 16 \\
 8 - 8 - 2h &< 16 - 8 \\
 -2h &< 8 \\
 -2h &> 8 \\
 -2 &> -2 \\
 h &> -4
 \end{aligned}$$

A number line from -5 to +5 with tick marks every 1 unit. Dots are placed at -3, -2, -1, 0, +1, +2, +3, +4, +5. The interval between -2 and -3 is shaded with vertical lines at both ends.

$h: h = \{-3, -2, -1, 0, +1 \dots\}$

13. A man bought a box of tomatoes where 25% of them were rotten and only 72 tomatoes were good. How many tomatoes were in the box?

Percentage for good tomatoes

$$100\% - 25\%$$

$$75\%$$

Number of tomatoes in the box

$$72 \div \frac{75}{100}$$

$$72 \times \frac{100}{75}$$

$$96 \text{ tomatoes}$$

14. Find the sum of all prime numbers between 80 and 90.

Prime numbers

$$\{2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97 \dots\}$$

$$\begin{aligned}
 \text{Sum} &= 83 + 89 \\
 &= 172
 \end{aligned}$$

15. The eucalyptus tree was the 21st tree from either side of the line of trees that make one side of the perimeter fence of the school. Find the number of trees on that side of the perimeter fence.

$$\begin{aligned}
 \text{Number of trees} &= (\text{Position} \times 2) - 1 \\
 &= (21 \times 2) - 1 \\
 &= 42 - 1 \\
 &= 41 \text{ trees.}
 \end{aligned}$$

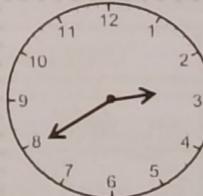
16. The temperature in Mbale at 6:00a.m. was -10°C . It rose up to 6°C in the evening. What was the temperature rise?

$$\begin{aligned}
 \text{New temp} - \text{Old temp} \\
 6^{\circ}\text{C} - (-10^{\circ}\text{C}) \\
 6^{\circ}\text{C} + 10^{\circ}\text{C} \\
 16^{\circ}\text{C}
 \end{aligned}$$

17. What number has been expanded to give;

$$\begin{aligned}
 (6 \times 100) + (7 \times 10) + (3 \times 10^{-2}) + (4 \times 10^{-3}) \\
 600 + 70 + 3 \times \frac{1}{100} + 4 \times \frac{1}{1000} \quad \parallel \quad 600 \\
 600 + 70 + \frac{3}{100} + \frac{4}{100} \quad \parallel \quad 70 \\
 600 + 0.03 + 0.004 \quad \parallel \quad 0.03 \\
 670.034
 \end{aligned}$$

18. Convert the afternoon time shown on the clock face below to 24-hour clock.



Afternoon Time is 2:40p.m

$$\begin{aligned}
 \text{In 24 hour clock} \\
 12:00 \\
 + 2:40 \\
 \hline
 1440\text{hrs}
 \end{aligned}$$

19. Simplify: $13mn - 8bc - 4mn - 6bc$.

$$\begin{aligned}
 13mn - 4mn - 8bc - 6bc \\
 9mn - 14bc
 \end{aligned}$$

20. An athlete covers 176 metres in two laps of a circular running track. What is the diameter of the running truck? (Use π as $\frac{22}{7}$)

$$\begin{aligned}
 2 \text{ laps} &\rightarrow 176m \\
 1 \text{ lap} &\rightarrow \frac{176m}{2} \\
 &\qquad \qquad \qquad \parallel \\
 1 \text{ lap} &\rightarrow 88m \\
 1 \text{ lap} &= \text{circumference}
 \end{aligned}
 \qquad
 \begin{aligned}
 \pi d &= C \\
 \frac{22d}{7} &= 88m \\
 \frac{22d}{7} \times 7 &= 88m \times 7 \\
 d &= 4m \times 7 \\
 d &= 28m
 \end{aligned}
 \qquad
 \begin{aligned}
 \frac{22d}{7} &= \frac{88m \times 7}{22} \\
 d &= 28m
 \end{aligned}$$

SECTION B: 60 MARKS

Answer all the questions in this section

Marks for each question are indicated in brackets

21. The interior and exterior angles of a regular polygon are in the ratio of 3:2 respectively.

- (a) How many sides does the polygon have? (03 Marks)

Int <	Ext <	Sum
3	2	5

$$5 \text{ parts rep } 180^\circ$$

$$1 \text{ part rep } \frac{180}{5}$$

$$1 \text{ part rep } 36^\circ$$

$$\underline{\text{Ext angle}} = 36^\circ \times 2$$

$$= 72^\circ$$

$$\begin{aligned} \text{Number of sides} &= \frac{360^\circ}{\text{ext } <} \\ &= \frac{360^\circ}{72^\circ} \\ &= \frac{360^\circ}{72^\circ} \\ &= 5 \end{aligned}$$

- (b) Find the number of right angles the polygon has.

$$\begin{aligned} \text{Number of right angles} &= 2n - 4 \\ &= (2 \times 5) - 4 \\ &= 10 - 4 \\ &= 6 \end{aligned}$$

22. One weekend, Bulya had Sh.50,000 from which he bought the items in the table below and was given a change of Sh.2,100. By show of working, complete the shopping table below. (06 Marks)

Item	Quantity	Unit Cost	Total Cost
Bathing soap	5 tablets	Sh. 4000 per tablet	Sh. 20000
Sugar	$\frac{3}{4} \text{ kg}$	Sh. 3,600 @ kg.	Sh. 11,700
Cooking oil	600ml	Sh. 7000 per litre	Sh. 4200
Bread	2 loaves	Sh. 6000 per loaf	Sh. 12,000
TOTAL EXPENDITURE		Sh. 47900	

Total Cost	Sugar	Cooking oil	Bread	Total	Soap
Sh. 50000	Sh. 11,100	600 x sh. 7000	Sh. 12000	sh. 11700	Sh. 47900
- Sh. 2100	Sh. 3600	1000	2	sh. 4200	Sh. 27900
<u>Sh. 47900</u>	$\frac{3}{4} \text{ kg}$	Sh. 4200	Sh. 6000	+ sh. 12000	<u>Sh. 20000</u>

23. A man was given a job of extending 400 bricks from a kiln to a construction site. In every trip, the man carried 20 less bricks than the previous trip.

- (a) If the man carried all the bricks in 4 trips, how many bricks did he carry in the first trip? (03 Marks)

$$\begin{array}{l|l|l|l|l} \text{Let the brick carried in the 1st trip be } y & 4y & = & 520 \\ \hline \text{1st trip} & 2nd trip & 3rd trip & 4th trip & 4y \\ y & y - 20 & y - 40 & y - 60 & 4 \\ y + y - 20 + y - 40 + y - 60 & = & 400 & & 4 \\ 4y - 120 & = & 400 & & 4 \\ 4y - 120 + 120 & = & 400 + 120 & & 4 \\ \hline \end{array}$$

Therefore, he carried 130 brick in the first trip

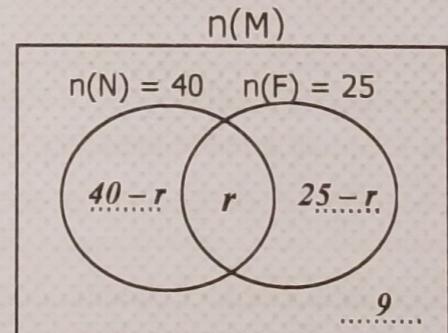
- (b) On average, how many bricks did he carry? (02 Marks)

$$\begin{aligned} \text{Average} &= \frac{\text{S.O.D}}{\text{N.O.D}} \\ &= \frac{400}{4} \\ &= 100 \end{aligned}$$

Therefore, on average, he carried 100 bricks.

24. In a restaurant, all the 55 customers ordered for Mineral water (M) 25 customers ordered for Fanta (F) and Mineral water, 40 customers ordered for Novida (N) and Mineral water. 9 customers ordered for only mineral water while r customers ordered for all the three kinds of drinks.

- (a) Use the above information to complete the Venn diagram below. (03 Marks)



- (b) How many customers ordered for at least two kinds of drinks?

$$\underline{\text{Value of } r} \quad (03 \text{ Marks})$$

$$40 - r + r + 25 - r + 9 = 55$$

$$40 + 25 + 9 - r = 55$$

$$74 - r = 55$$

$$74 - 74 - r = 55 - 74$$

$$-r = -19$$

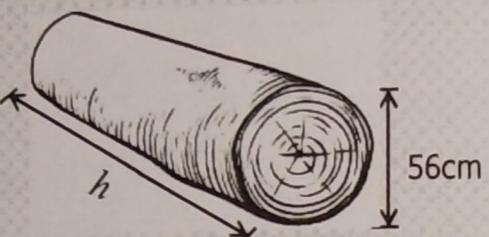
$$-1(-r) = -1(-19)$$

$$r = 19$$

Number of Customers who ordered for at least two kinds of drinks

$$\begin{array}{l|l} (40 - r) + r + (25 - r) & 46 \text{ customers} \\ (40 - 19) + 19 + (25 - 19) & \\ 21 + 19 + 6 & \end{array}$$

25. The diagram below shows a tree log of height (h) and a diameter of 56cm. Use it to answer the questions that follow.



- (a) If the log was split by a carpenter into a rectangular piece to make a window, work out the length of the window formed.

$$\text{Length} = \text{Circumference} \quad (\text{Use } \pi \text{ as } \frac{22}{7}) \quad (02 \text{ Marks})$$

$$\begin{aligned} C &= \pi d \\ &= \frac{22}{7} \times 56 \text{ cm} \\ &= 22 \times 8 \text{ cm} \\ &= 176 \text{ cm} \end{aligned}$$

The length of the window is 176 cm

- (b) If the area of the window formed was 8800cm^2 , find the height of the log. (02 Marks)

$$\begin{aligned} \text{Height (h)} &= \text{Width} \\ l \times w &= \text{Area} \\ 176\text{cm} \times w &= 8800 \text{ cm}^2 \\ \frac{176\text{cm} \times w}{176\text{cm}} &= \frac{8800 \text{ cm} \times \text{em}}{176\text{cm}} \\ w &= 50 \text{ cm} \end{aligned}$$

The height of the log is 50 cm

26. Kabasiita drove a car from town Z to town Y at a speed of 88km/h in $3\frac{1}{2}$ hours. She rested at town Y for half an hour and drove back at an average speed of 77km/h. Calculate Kabasiita's average speed for the whole journey. (05 Marks)

<u>Distance from Z to Y</u>	<u>Time from Y to T</u>	<u>Average Speed</u>
$D = S \times T$	$T = D \div S$	$AVS = \frac{T.D.C}{T.T.T}$
$= 88 \text{ km/h} \times 3\frac{1}{2} \text{ h}$	$= 308 \text{ km} \div 77 \text{ km}$	$= \frac{308 \text{ km} \times 2}{(3\frac{1}{2} + \frac{1}{2} + 4)h}$
$= 88 \text{ km} \times \frac{7}{2}$	$= 308 \text{ km} \times \frac{h}{77}$	$= \frac{616 \text{ km}}{8-h}$
$= 44 \text{ km} \times 7$	$= 4 \text{ h}$	$= 77 \text{ km/h}$
$= 308 \text{ km}$		

27. (a) Given that $16 = 31m$, find the value of the unknown base m.

$$\begin{aligned} 16 &= (3 \times m^1) + (1 \times m^0) \\ 16 &= (3 \times m) + (1 \times 1) \end{aligned} \quad (02 \text{ Marks})$$

$$16 - 1 = 3m + 1 - 1$$

$$\frac{15}{3} = \frac{3m}{3}$$

$$5 = m$$

m is base five

- (b) Workout: Kg g (02 Marks)

$$\begin{array}{r} & 7 & 1350 \\ & 8 & 350 \\ - 2 & & \\ \hline & 5 & 730 \end{array}$$

$$(1000 + 350) - 620$$

$$1350 - 620$$

$$730$$

28. A builder laid square tiles in a rectangular room of length 270cm as shown in the diagram below. Study and use it to answer the questions that follow.



- (a) Find the width of the room. (02 Marks)

6 square boxes rep 270 cm

1 square box rep 270 cm

6

4 square boxes rep $\frac{270 \text{ cm}}{6} \times 4$

4 square boxes rep 45 cm x 4

4 square boxes rep 180cm

Therefore, the width is 180cm

- (a) Calculate the area occupied by 5 tiles. (02 Marks)

Area of 1 square box

$$\begin{aligned} \text{Area} &= S \times S \\ &= 45 \text{ cm} \times 45 \text{ cm} \\ &= 2025 \text{ cm}^2 \end{aligned}$$

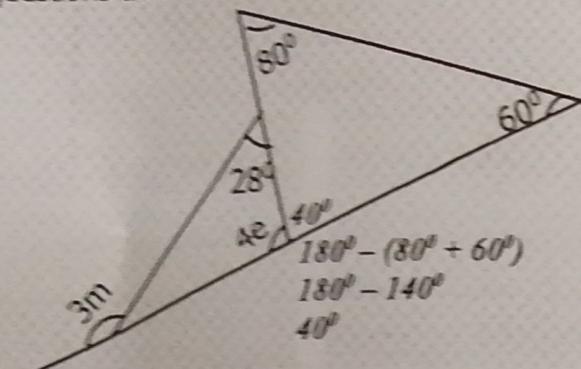
Area of 5 square boxes

$$\begin{aligned} \text{Area} &= 2025 \text{ cm}^2 \times 5 \\ &= 10125 \text{ cm}^2 \end{aligned}$$

- (b) Workout the perimeter of the room. (02 Marks)

$$\begin{aligned} \text{Perimeter} &= 2(l+w) \\ &= 2(270 \text{ cm} + 180 \text{ cm}) \\ &= 2 \times 450 \text{ cm} \\ &= 900 \text{ cm} \end{aligned}$$

29. Study the diagram below and use the information on it to answer the questions that follow.



Find the value of;

(I) e (02 Marks)

$$4e = 80^\circ + 60^\circ$$

$$4e = 140^\circ$$

$$\frac{4e}{4} = \frac{140^\circ}{4}$$

$$e = 35^\circ$$

(II) m (02 Marks)

$$3m = 4e + 28^\circ$$

$$3m = 140^\circ + 28^\circ$$

$$3m = 168^\circ$$

$$\frac{3m}{3} = \frac{168^\circ}{3}$$

$$m = 56^\circ$$

30. In a market, $\frac{1}{4}$ of the traders sell Irish potatoes, $\frac{1}{3}$ sell fruits, $\frac{3}{10}$ of the remainder sell vegetables and the remaining 35 traders sell matoke.

- (a) What fraction of the traders in the market sell matoke?

Irish + fruits | Remainder | Vegetables | Matoke (03 Marks)

$\frac{1}{4} + \frac{1}{3}$	$\frac{12}{12} - \frac{7}{12}$	$\frac{3}{10} \text{ of } \frac{5}{12}$	$\frac{5}{24} - \frac{1}{24}$
$\frac{4}{12} + \frac{3}{12}$	$\frac{12}{12} - \frac{7}{12}$	$\frac{3}{10} \times \frac{5}{12}$	$\frac{5}{24} - \frac{1}{24}$
$\frac{7}{12}$	$\frac{5}{12}$	$\frac{1}{8}$	$\frac{7}{24}$

- (b) Find the total number of traders in the market.

$$35 \div \frac{7}{24}$$

$$35 \times \frac{24}{7}$$

$$5 \times 24$$

120 traders

31. A business woman borrowed some money from Centenary bank at an interest rate of $20\frac{1}{2}\%$ per annum. She was given a bundle of twenty thousand shilling notes numbered consecutively from CT0237458 to CT0237507.

- (a) How much money did she borrow? (02 Marks)

<u>Number of Notes</u>	<u>Amount</u>
CT0237507	sh. 20000 x 46
- CT0237458	sh. 920000
	<u>45 + 1</u>
	<u>46 notes</u>

- (b) Calculate the total amount of money the business woman paid back to the bank after 6 months. (03 Marks)

$$\begin{aligned} S.I &= PRT \\ &= sh. 920000 \times 20.5 \times \frac{6}{100} \\ &= sh. 4600 \times 20\frac{1}{2} \times \frac{1}{2} \\ &= sh. 4600 \times \frac{41}{2} \\ &= sh. 2300 \times 41 \\ S.I &= sh. 94300 \end{aligned}$$

Amount paid back

$$\begin{aligned} sh. 920000 \\ + sh. 94300 \\ sh. 1014300 \end{aligned}$$

32. The information below was found on the noticeboard of Akpor Hospital showing the number of patients admitted in different wards in a certain month.

Ward	No. of Patients
Maternity Ward	15
Casualty Ward	35
Men's ward	30
Children's ward	20

Display the above information on a circle graph of radius 3.5cm in the space provided below. (05 Marks)

Total Number of patients

$$15 + 35 + 30 + 20$$

100

Maternity

$$\frac{15 \times 360^\circ}{100}$$

54°

Children

$$\frac{20 \times 360^\circ}{100}$$

72°

Men

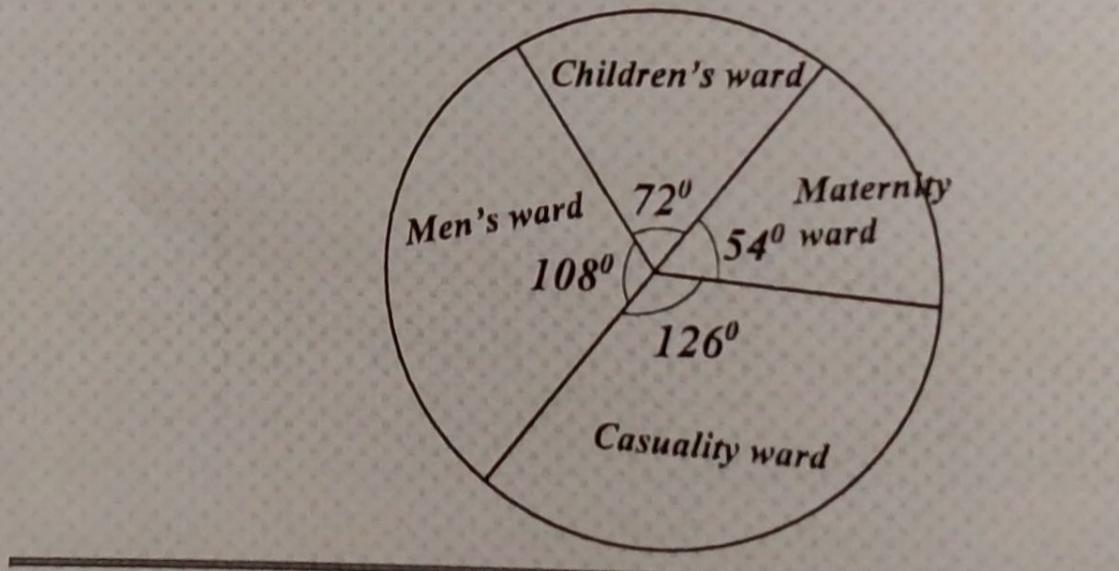
$$\frac{30 \times 360^\circ}{100}$$

108°

Casualty

$$\frac{35 \times 360^\circ}{100}$$

126°



END